What is claimed is:

1. A method for producing a target substance utilizing a microorganism comprising the steps of culturing the microorganism in a medium to produce and accumulate the target substance in the medium and collecting the target substance, wherein the microorganism is constructed from a parent strain of the microorganism having a respiratory chain pathway of high energy efficiency and a respiratory chain pathway of low energy efficiency as respiratory chain pathways, and the microorganism is a mutant strain or a genetic recombinant strain having either one or both of the following characteristics:

(A) the respiratory chain pathway of high energy efficiency is enhanced,

(B) the respiratory chain pathway of low energy efficiency is deficient.

2. The method for producing a target substance according to claim 1, wherein the respiratory chain pathway of high energy efficiency is enhanced by increasing a copy number of a gene coding for an enzyme involved in the respiratory chain or modification of an expression regulatory sequence of the gene.

3. The method for producing a target substance according to claim 1 or 2, wherein the respiratory chain pathway of low energy efficiency is made deficient by disruption of a gene coding for an enzyme involved in

the respiratory chain.

4. The method for producing a target substance according to any one of claims 1-3, wherein enzymes of the respiratory chain of high energy efficiency include SoxM type oxidase, bcl complex, NDH-1 or two or three kinds of them.

5. The method for producing a target substance according to any one of claims 1-4, wherein enzymes of the respiratory chain of low energy efficiency include cytochrome bd type oxidase, NDH-II or both of them.

6. The method for producing a target substance according to any one of claims 1-5, wherein activity of SoxM type oxidase is enhanced and NDH-II is made deficient in the microorganism.

7. The method for producing a target substance according to any one of claims 1-6, wherein the SoxM type oxidase is cytochrome bo type oxidase.

8. The method for producing a target substance according to any one of Claims 1-7, wherein the microorganism is selected from the group consisting of bacterium belonging to the genus *Escherichia* and coryneform bacterium.

9. The method for producing a target substance according to any one of Claims 1-8, wherein the target substance is selected from the group consisting of L-amino acids and nucleic acids.